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Dated: 1-27-06 Signature: Maura A. Gallagher  
(Maura A. Gallagher)

Docket No.: BBNT-P01-015  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Pearson et al.

Application No.: 10/799177

Confirmation No.: 8150

Filed: March 12, 2004

Art Unit: 2661

For: SYSTEMS AND METHODS FOR  
IMPLEMENTING ROUTING PROTOCOLS  
AND ALGORITHMS FOR QUANTUM  
CRYPTOGRAPHIC KEY TRANSPORT

Examiner: Not Yet Assigned

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT (IDS)**

MS Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Supplemental Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned (37 CFR 1.97(b)(3)).

Applicant has not submitted copies of each cited U.S. patent and U.S. patent application as required by 37 CFR 1.98(a)(2)(i), amended October 2004, as the U.S. Patent and Trademark Office has waived this requirement for all U.S. patent applications. Applicant submits herewith copies of foreign and non-patents in accordance with 37 CFR 1.98(a)(2).

The following co-owned pending patent applications may include subject matter similar to that disclosed in this application. One or more office actions may have issued in these cases.

<u>Application No.</u>	<u>Title</u>	<u>Filed</u>	<u>Docket No.</u>
09/611783	Systems And Methods For Implementing A Quantum-Cryptographic Communications Network	July 7, 2000	BBNT-P01-009
09/943709	Systems And Methods For Path Set-Up In A Quantum Key Distribution Network	August 31, 2001	BBNT-P01-139
09/944328	Quantum Cryptographic Key Distribution Networks With Untrusted Switches	August 31, 2001	BBNT-P01-134
10/197659	Key Distribution Center For Quantum Cryptographic Key Distribution Networks	July 17, 2002	BBNT-P01-164
10/218652	Methods And Systems For Distributing A Group Key In A Quantum Cryptographic Key Distribution Network	August 14, 2002	BBNT-P02-164
10/271103	Systems And Methods For Framing Quantum Cryptographic Links	October 15, 2002	BBNT-P01-231
10/271150	Quantum Cryptographic System With Photon Counting Detector	October 15, 2002	BBNT-P01-188
10/289192	Systems And Methods For Implementing A Unified Framework For Quantum Cryptographic Protocols	November 6, 2002	BBNT-P01-189
10/325325	Systems And Methods For Implementing Adaptive Quantum Cryptography	December 18, 2002	BBNT-P01-219
10/324040	Key Transport In Quantum Cryptographic Networks	December 20, 2002	BBNT-P01-210
10/324355	Systems And Methods For Managing Quantum Cryptographic Networks	December 20, 2002	BBNT-P01-218
10/384502	Autoconfiguration Via Quantum Cryptographic Link Framing	March 7, 2003	BBNT-P01-209
10/394974	Systems And Methods For Implementing A Sifting Protocol For Quantum	March 21, 2003	BBNT-P02-189

<u>Application No.</u>	<u>Title</u>	<u>Filed</u>	<u>Docket No.</u>
	Cryptography		
10/402120	Quantum Cryptography Via Phase-Entangled Encoding	March 28, 2003	BBNT-P01-229
10/434248	Quantum Cipher Key Distribution Via Phase-Entangled Encoding Of Key Symbols	May 7, 2003	BBNT-P01-230
10/462292	Automatic Control Of Quantum Key Distribution	June 16, 2003	BBNT-P01-240
10/462400	Quantum Cryptography Based On Phase Entangled Photons	June 16, 2003	BBNT-P01-241
10/716078	Systems And Methods For Implementing Path Length Control For Quantum Cryptographic Systems	November 18, 2003	BBNT-P02-097
10/716747	Systems And Methods For Implementing Training Frames For Quantum Cryptographic Links	November 18, 2003	BBNT-P02-231
10/786314	Systems And Methods For Reserving Cryptographic Key Material	February 26, 2004	BBNT-P01-265
10/795313	Quantum Cryptography With Multiparty Randomness	March 9, 2004	BBNT-P01-268
10/795398	Simple Untrusted Network For Quantum Cryptography	March 9, 2004	BBNT-P01-259
10/797140	Systems And Methods For Implementing Adaptive Training For Quantum Cryptography	March 11, 2004	BBNT-P03-231
10/800481	Systems And Methods For Implementing An Error Detection And Correction Protocol For Quantum Cryptography	March 15, 2004	BBNT-P02-021
10/803509	Systems And Methods For Quantum Cryptographic Key Transport	March 18, 2004	BBNT-P01-258

In accordance with 37 CFR 1.97(g), the filing of this Supplemental Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this Supplemental Information Disclosure Statement shall not be construed to be an

admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

It is submitted that the Supplemental Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 18-1945, under Order No. BBNT-P01-015.

Dated: January ~~27~~ 2006

Respectfully submitted,

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Attorneys/Agents For Applicant



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<b>Substitute for form 1449A/B/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		<b>Complete if Known</b>			
		Application Number	10/799,177		
		Filing Date	March 12, 2004		
		First Named Inventor	David Spencer Pearson		
		Art Unit	2666		
		Examiner Name	S. S. Rao		
Sheet	1	of	3	Attorney Docket Number	BBNT-P01-015

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	AA*	US-4,445,116	04-24-1984	Grow	
	AB*	US-5,307,410	04-26-1994	Bennett	
	AC*	US-5,469,432	11-21-1995	Gat	
	AD*	US-5,764,767	06-09-1998	Beimel et al.	
	AE*	US-5,911,018	06-08-1999	Bischel et al.	
	AF*	US-5,960,131	09-28-1999	Fouquet et al.	
	AG*	US-5,960,133	09-28-1999	Tomlinson	
	AH*	US-6,005,993	12-21-1999	MacDonald	
	AI*	US-6,028,935	02-22-2000	Rarity et al.	
	AJ*	US-6,097,696-A	08/2000	Doverspike, Robert D.	
	AK*	US-6,130,780	10-10-2000	Joannopoulos et al.	
	AL*	US-6,154,586	11-28-2000	MacDonald et al.	
	AM*	US-6,507,012-B1	01/2003	Medard et al	
	AN*	US-6,678,379-B1	01/2004	Mayers et al	
	AO*	US-5,311,572	05/1994	Friedes et al.	
	AP*	US-5,602,916	02/1997	Grube et al.	
	AQ*	US-6,341,127	01/2002	Katsube et al.	
	AR*	US-6,529,498	03/2003	Cheng	
	AS*	US-6,538,990	11/2003	Mahalingaiah et al.	
	AT*	US-6,560,707	05/2003	Curtis et al.	
	AU*	US-6,654,346	11/2003	Mahalingaiah et al.	
	AV*	US-6,754,214	06/2004	Mahalingaiah	
	AW*	US-6,836,463	12/2004	Garcia-Luna Aceves et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	CA	"Quantum key distribution: Real-time compensation of interferometer phase drift," NTNU Department of Physical Electronics, pages 1-45.	
	CB	Awduche, D.O., et al., "Multi-Protocol Lambda Switching: Combining MPLS Traffic Engineering Control With Optical Crossconnects," Internet Draft (January 2001).	
	CC	Basak, D., et al., "Multi-protocol Lambda Switching: Issues in Combining MPLS Traffic Engineering Control With Optical Cross-connects," Internet draft (August 2000).	
Examiner Signature			Date Considered

Substitute for form 1449A/B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>				<b>Complete if Known</b>	
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				First Named Inventor	David Spencer Pearson
				Art Unit	2666
				Examiner Name	S. S. Rao
Sheet	2	of	3	Attorney Docket Number	BBNT-P01-015

CD	Bennett, C.H., et al., "Experimental Quantum Cryptography," Journal of Cryptography's special issue after Eurocrypt '90, 28 pages (September 1991).
CE	Bennett, C.H., et al., "Generalized Privacy Amplification," IBM Research, 24 pages (May 31, 1995).
CF	Bennett, C.H., et al., "Quantum Cryptography: Public Key Distribution and Coin Tossing," Proceedings of IEEE International Conference on Computers, Systems & Signal Processing, Bangalore, India, pp. 175-179, December 10-12, 1984.
CG	Bethune, D.S., et al., "An Autocompensating Fiber-Optic Quantum Cryptography System Based on Polarization Splitting of Light," IEEE Journal of Quantum Electronics, XX(Y):100-108 (1999).
CH	Bethune, D.S., et al., "Prototype Autocompensating Quantum Cryptography System Based on Polarization Splitting of Light," Session QC41 – Quantum Computing and Cryptograph, Oral session, Wednesday morning, March 24, 1999, Liberty Room, Omni Hotel.
CI	Brassard, G., et al., "Secret-Key Reconciliation by Public Discussion," Department IRO, Universite de Montreal, 14 pages (1994).
CJ	Cabello, A., "Multiparty key distribution and secret sharing based on entanglement swapping," pp. 1-8, (September 7, 2000).
CK	Crepeau, C., et al., "Secure Multi-party Quantum Computation," ACM, pp. 1-10 (2001).
CL	Eisenberg, S., "Lucent Technologies names Cherry Murray physical sciences research vice president," Press Release (March 28, 2000).
CM	Ekert, A.K., "Quantum Cryptography Based on Bell's Theorem," Physical Review Letters, 67(6):661-663 (1991).
CN	Elliott, B.B., et al., "Path-length control in a interferometric QKD link," Proc. of SPIE, Vol. #5101, 11 pages (April 21, 2003).
CO	Franson, J.D., "Bell Inequality for Position and Time," Physical Review Letters, 62(19):2205-2208 (1989).
CP	Gisin, N., et al., "Quantum cryptography and long distance Bell experiments: How to control decoherence," Geneva, Switzerland, pages 1-7 and 4 pages of drawings (January 15, 1999).
CQ	Gisin, N., et al., "Quantum cryptography," Reviews of Modern Physics, 74:145-184 (2002).
CR	Gottesman, D., et al., "Secure quantum key distribution using squeezed states," pp. 1-19 (September 25, 2000).
CS	Jennwein, T., et al., "Quantum Cryptography with Entangled Photons," Physical Review Letters, 84(20):4729-4732 (2000).
CT	Lin, L.Y., et al., "Free-Space Micromachined Optical Switches for Optical Networking," IEEE Journal of Selected Topics in Quantum Electronics, 5(1):4-9 (1999).
CU	Maurer, U., et al., "Information-Theoretic Key Agreement: From Weak to Strong Secrecy for Free," Computer Science Department, Swiss Federal Institute of Technology, 20 pages (2000).
CV	Maurer, U.M., "Secret Key Agreement by Public Discussion From Common Information," IEEE Transactions on Information Theory, 39:733-742 (1993).
CW	Mo, X., et al., "Intrinsic-Stabilization Uni-Directional Quantum Key Distribution Between Beijing and Tianjin," Key Lab of Quantum Information, Department of Electronic Engineering and Information Science, University of Science and Technology of China, Hefei, Anhui.
CX	Naik, D.S., et al., "Entangled State Quantum Cryptography: Eavesdropping on the Ekert Protocol," Physical Review Letters, 84(20):4733-4736 (2000).
CY	Ribordy, G., et al., "Long-distance entanglement-based quantum key distribution," Physical Review A, Volume 63, 012309-1-012309-12 (2001).
CZ	Rosen, E., et al., "Multiprotocol Label Switching Architecture," MPLS Architecture, 1-61 (January 2001).
CA1	Scarani, V., et al., "Quantum Cryptography Protocols Robust Against Photon Number Splitting Attacks for Weak Lazer Pulse Implementations," Physical Review Letters, 92(5):057901-1

Examiner Signature		Date Considered	
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				Art Unit	2666
				Examiner Name	S. S. Rao
Sheet	3	of	3	Attorney Docket Number	BBNT-P01-015

		through 057901-4 (February 2004).	
	CB1	Scarani, V., et al., "Quantum cryptography protocols robust against photon number splitting attacks," ERATO Conference on Quantum Information Science 2003, September 4-6, 2003, Nijimakaikan, Kyoto Japan; 2 pages.	
	CC1	Slutsky, B., et al., "Defense frontier analysis of quantum cryptographic systems," Applied Optics, 37(14):2869-2878 (1998).	
	CD1	Stucki, D., et al., "Quantum Key Distribution over 67 km with a plug&play system," New Journal of Physics, 41.1-41.8 (2002).	
	CE1	Tanzilli, S., et al., "PPLN waveguide for quantum communication," Eur. Phys. J.D., 18:155-160 (2002).	
	CF1	Tittel, W., et al., "Long-distance Bell-type tests using energy-time entangled photons," Physical Review A, 59(6):4150-4163 (1999).	
	CG1	Walker, J.A., "Telecommunications Applications of MEMS," mstnews, pp. 6-9 (March 2000).	
	CH1	Xiao, L., et al., "Efficient Multi-Party Quantum Secret Sharing Schemes," pp. 1-7 (May 28, 2004).	
	CI1	Degermark, M., et al., "Small Forwarding Tables for Fast Routing Lookups," ACM, pages 3-14 (1997).	
	CJ1	Estrin, D., et al., "Security Issues in Policy Routing," IEEE, pages 183-193 (1989).	
	CK1	Garcia-Luna-Aceves, J.J., et al., "Distributed, Scalable Routing Based on Vectors of Link States," IEEE Journal on Selected Areas in Communications, 13(8):1383-1395 (October 1995).	
	CL1	Garcia-Luna-Aceves, J.J., et al., "Scalable Link-State Internet Routing," Network Protocols (October 13-16, 1998).	
	CM1	Lakshman, T.V., et al., "High-Speed Policy-based Packet Forwarding Using Efficient Multi-dimensional Range Matching," Proceedings of the ACM SIGCOMM'98 conference on Applications, technologies, architectures and protocols for computer communication, pages 203-214 (1998).	
	CN1	Lampson, B., et al., "IP Lookups Using Multiway and Multicolumn Search," IEEE/ACM Transactions on Networking, 7(3):324-334 (June 1999).	
	CO1	Ramanathan, R., et al., "Hierarchically-organized, multihop mobile wireless networks for quality-of-service support," Mobile Networks and Applications, 3:101-119 (1998).	
	CP1	Tsai, W.T., "An Adaptive Hierarchical Routing Protocol," IEEE Transactions on Computers, 38(8):1059-1075 (August 1989).	
	CQ1	Waldvogel, M., et al., "Scalable High Speed IP Routing Lookups," ACM, pages 25-36 (1997).	
	CR1	Bowers, J.E., "Optical Network and Component Trends," UCSB, NSF Workshop, 51 pages.	
	CS1	Honjo, T., et al., "Differential-phase-shift Quantum Key Distribution," NTT Technical Review, 2(12):26-33 (Dec. 2004).	
	CT1	Nambu, Y., et al., "BB84 Quantum Key Distribution System based on Silica-Based Planar Lightwave Circuits," Fundamental and Environmental Research Laboratories and Fiber Optic Devices Division, pages 1-11.	
	CU1	Paniccia, M., "Silicon Integrated Photonics," UCSB, 30 pages, February 2, 2005.	
	CV1	Tomita, A., et al., "Recent Progress in Quantum Key Transmission," NEC J. of Adv. Tech., 2(1):84-91 (Winter 2005).	

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

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